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Good Nutrition For The Highchair Set

by Judith Willis

"Open the hangar and let the airplane fly in," mother coaxes her reluctant 6-month-old, spoon circling in mid-air.

Baby opens her mouth and the "airplane," with its spinach cargo, zooms toward the opening—only to collide with a mouth snapped shut faster than the speed of sound. The green goo dribbles down baby's chin onto her bib. But mother notes with some consolation that baby is tentatively licking some spinach off her lips.

The trials and tribulations of feeding infants are sometimes compounded by uncertainties about when to introduce certain foods and whether homemade varieties offer any benefits over those that are commercially prepared.

About 20 years ago, it was commonly recommended that babies be given "solid" food beginning at 6 weeks of age or sometimes even younger. But a generation of experience has led pediatric experts to conclude that 6 weeks is too early for even cereal mixed with milk, the first traditional solid food. Today the common recommendation is that babies should receive only breast milk or infant formula until they are at least 4 to 6 months old.

Reasons for this are several. Contrary to previous theory, experts now advise that solid food does not make a baby any more likely to sleep through the night than a diet of only formula or breast milk. Such a liquid diet can appease the hunger of an infant under 4 to 6 months of age. The nervous system also needs to mature so the baby can recognize a spoon, coordinate swallowing, and signal if hungry or full. Feeding solids before the baby has these skills is really a kind of force-feeding. Introducing solids too early may contribute to overfeeding and result in food allergies, which can cause gastrointestinal and other problems.

To make baby food more nutritious when babies are ready for it, manufacturers, over the years, have made a number of changes

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Introducing Baby To Solid Foods

Foods are usually (but not necessarily) introduced in the order shown below, with several weeks between different types of foods. Ages of introduction are approximate and may vary with individual babies. The baby's doctor is the best source for advice on when and how often any particular food is appropriate for that baby. Cereals should be mixed with formula or breast milk.

Age	Food	Frequency
4–6 months	Precooked baby cereal	Twice a day
	Baby juices	Between meals
5–6 months	Strained single fruits	Twice a day
6–7 months	Strained vegetables	Once a day
7–8 months	Strained meats	Once a day
	Plain yogurt	Once a day
	Baby juices	Between meals
8–9 months	Egg yolk, strained	Once a day

in their products. For example, precooked cereals marketed for infants and usually first offered when the baby is 4 to 6 months old are fortified with iron and B vitamins. Although some forms of iron added to food are not as available to the body as iron naturally present, manufacturers of precooked baby cereals add a form of iron that *is* absorbed as well as other non-heme (non-meat) iron naturally present in food. Babies need added iron at this age because the iron they had at birth from their mothers is just about used up. Therefore, babies are usually given supplemental iron in the form of drops, or in formula or baby cereal. Most precooked baby cereals contain 45 percent of the U.S. Recommended Daily Allowance (U.S. RDA) of iron per serving.

When cereal is first fed to babies, to find out if they are allergic to any one type, the single-grain varieties of rice, oatmeal and barley should be given first. Mixed cereals and wheat cereals should be added when the baby is several months older. Cereal made from wheat is a more frequent cause of allergy than the other grains and is slightly rougher on the stomach.

Once they've mastered cereal slurping, babies can be offered a variety of other foods. But these foods must be strained to a very soft, semi-liquid consistency because infants, lacking teeth, cannot yet chew properly and because their swallowing reflex has not yet matured.

For years, commercially prepared baby foods were available only in jars. But, more recently, foil-lined canisters containing dehydrated flakes for mixing with water have been introduced. After being opened, baby food in jars lasts about three days in the refrigerator. The flakes do not have to be refrigerated and remain good for about two weeks after opening.

Though it's a time-consuming task, some parents prepare foods at home for their babies in the hope that what they strain and purée (usually with the help of a blender or food processor) may be nutritionally superior to the commercially prepared foods. Often these parents are most concerned about the possible addition of salt, sugar and other additives to commercial baby foods. A certain amount of sodium is necessary to an infant's health, but an excessive intake is not desirable. Before 1970, baby foods in jars often contained added sodium in the form of salt and monosodium glutamate (MSG). Then the National Academy of Sciences and the American Academy of Pediatrics pointed out that the amount of sodium in baby foods was often far in excess of body needs and that additives (other than vitamins and minerals) were not necessary to the proper nourishment of infants. In response to these points and to the growing concern that high sodium intake early in life might lead to high blood pressure later on, manufacturers of baby food began to limit the amount of added sodium. By 1978, they had entirely stopped adding MSG and salt to products meant for babies under 1 year.

Concerns about sugar and other additives, such as preservatives, have similarly motivated manufacturers to limit the amount of these substances added to their products. Today, commercially prepared baby foods rarely contain preservatives. Sterilization during the manufacturing process contributes to their long shelf life. In most lines of baby food, refined sugar is added only to custards and puddings.

A parent who wants to know what is in baby food need go no further than the label. FDA regulates the labeling of all baby foods with the exception of strained meats, which are the domain of the U.S. Department of Agriculture. FDA requires labeling on "infant" food (for babies under a year old) to be more complete than that of other foods so that parents may be well-informed about what they are feeding their youngsters. While the labeling of other foods may list spices and additives simply as such, the labels on infant foods must list each ingredient by name, including each spice, flavoring and coloring. In addition, the labeling must specify the plant or animal source of an ingredient. For example, rather than vegetable oil, the label must say "coconut oil" or "palm oil." As with other foods, ingredients are listed in descending order of predominance. Most manufacturers also include on the label the amounts (or percentages of U.S. RDAs) of calories, protein, carbohydrate, fat, sodium, vitamins and minerals.

Along with solid foods, parents usually start to feed babies fruit juices at about 7 months of age. Until recently, fruit juices for babies were marketed in cans. However, concern about lead from the cans getting into the juice after the can was opened and left partly filled caused manufacturers to switch to small glass bottles.

Nutritional Needs Of Infants

Recommended Daily Dietary Allowances*

Nutrient	Birth to 6 months	6 to 12 months
Protein (grams/kilogram of baby's weight)	2.2	2.0
Vitamins		
A (micrograms (μg))	420	400
D (μg)	10	10
E (milligrams (mg))	3	4
C (mg)	35	35
Thiamine (mg)	0.3	0.5
Riboflavin (mg)	0.4	0.6
Niacin (mg)	6	8
B_6 (mg)	0.3	0.6
Folacin (μg)	30	45
B_{12} (μg)	0.5	1.5
Minerals		
Calcium (mg)	360	540
Phosphorus (mg)	240	360
Magnesium (mg)	50	70
Iron (mg)	10	15
Zinc (mg)	3	5
Iodine (μg)	40	50

Babies under 1 year get most of their vitamins and minerals from formula or milk. When solid foods are introduced, they are to supplement, not replace, milk or formula. Only gradually should solid foods become major sources of nutrients.

**Source: Food and Nutrition Board, National Academy of Sciences-National Research Council. Revised 1980.*

(Unopened cans do not pose this problem.) The juices are fortified with vitamin C (as are many strained fruits) and most brands do not contain added refined sugar. Juice should be served to the baby in a cup. It is especially important not to put a baby to bed with a bottle of fruit juice because if, as the baby dozes, its mouth remains in contact with the fruit juice, the acid and natural sugars have more of a chance to promote tooth decay.

A separate line of products is marketed for babies over a year old. These are commonly referred to as "toddler" foods. Chunkier than infant foods, these foods help in the transition to regular table food. Unlike infant foods, the sodium content of some toddler foods has not been significantly reduced. The National Academy of Sciences has set 325 to 975 milligrams of sodium as the safe and adequate daily dietary intake for children 1 to 3 years old. Yet some products marketed for this age group have 500 to 700 milligrams of sodium per serving, so that a child eating more than one serving a day might get an excessive amount of sodium. FDA has been encouraging manufacturers to reduce the amount of sodium in these products. The U.S. Department of Agriculture, which regulates the meat products that compose the majority of the "toddler" food lines, is also working with the manufacturers on this problem.

Because children under 4 years do not have a full set of teeth and therefore cannot chew as well as older children, extra care is needed when giving them toddler foods such as meat sticks and biscuits. The same precautions should be taken when feeding them "finger" foods, such as hot dogs, nuts and hard candies. (See "Parents: Guard Against Food-Related Chokings" in the November 1984 *FDA Consumer* and "Determining When A Food Poses A Hazard" in the June 1983 *FDA Consumer.)*

In response to these concerns, the following has been added to the labeling of toddler biscuits:

"For Your Information: Biscuits, cookies, toast and crackers should be eaten in an upright position—never while lying down—to reduce the possibility of choking on crumbs."

The following has been added to the labeling of toddler meat sticks:

"This product is intended for children with teeth. To reduce the possibility of choking, serve these sticks only to toddlers who have learned to chew solid foods properly. It is important that mealtime and snack time of small children be supervised. They should be fed in an upright position and never during vigorous activities."

Despite these few problems, commercially prepared baby and toddler foods offer an adequate and safe alternative that most parents prefer to home-prepared foods for babies. FDA continues to monitor these foods and shares parents' concern that what zooms into their babies' mouths be as safe and nutritious as possible. ■

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